

Electronic Book viewing mode is selected in such a camera in response to an operation at the operation unit 334, the contents of an Electronic Book can be displayed by using a memory card MC. While the camera may be utilized as an Electronic Book either in the power ON state or in the power OFF state, the zoom in/out buttons, for instance, can be used as page up/down buttons by limiting its use in the power OFF state.

[0151] When the Electronic Book viewing mode is selected in the power OFF state, the switch control circuit 312 executes control so as to sustain the switch 313 in the open state even if the zoom in or the zoom out button at the operation unit 334 is operated. Under these conditions, too, power is supplied to the character display module 20 only when a zoom in/out button is operated to update the display at the character display module 20. It is to be noted that the display at the character display module 20 may be automatically selected regardless of the state of the power switch 91 whenever the camera is set in the Electronic Book viewing mode and an instruction for Electronic Book contents display is issued. Such a structure, too, reduces the overall power consumption in the device.

[0152] It is desirable that the camera have all the display functions shown in FIGS. 19 through 25 and allow the user to select in advance a specific display setting. It is also desirable that information indicating the power OFF state be displayed as shown in FIGS. 19 and 20, as long as the information can fit into the display space at any display setting. However, the minimum display requirements for the camera are that it must have at least one of the display functions.

[0153] It is to be noted that while an explanation is given above in reference to the embodiment on an example in which power to most of the circuits, excluding the clock circuit, the CPU 331 and the like, is cut off in the power OFF state, the display can be continuously held in the power OFF state by utilizing a memory-type display element constituted with a cholesteric liquid crystal or the like even if power to all the circuits in the device is cut off.

Third Embodiment

[0154] Next, the third embodiment achieved by adopting the present invention in a portable telephone is explained. The portable telephone in FIG. 26 includes a display device 100B disposed at its rear surface in addition to a main display device 100A, and both display devices adopt a two-layer structure achieved in the first embodiment having been explained in reference to FIGS. 1 through 3. Namely, the display devices 100A and 100B each comprise an image display module (first display module) 10 and a character display module (second display module) 20, as does the display device in the first embodiment. It is to be noted that only one of the display devices may adopt the two-layer structure.

[0155] FIG. 27 is a block diagram of the control system in the portable telephone. The display devices 100A and 100B, a memory 102, an external interface (I/F) 108, a battery 109, a communication control unit 110, a clock 111 and an operation unit 112 are connected to a CPU 101 constituting a control means (circuit) for controlling the overall operations of the portable telephone.

[0156] The operation member 112, which includes dialing buttons of the telephone and the like, outputs an operation signal corresponding to a depressed button to the CPU 101. The communication control unit 110, which includes an antenna 110A and a wireless transmission/reception circuit, enables voice communication with another telephone via a base station (not shown) in response to a command from the CPU 101. In addition to telephone voice calls, image data of images photographed by using the camera function and the like can be transmitted/received via the communication control unit 110. Reference numeral 105 indicates a detachable memory card, and the CPU 101 is capable of recording image data and the like into the memory card 105 and reading out image data and the like from the memory card 105. The external interface 108 exchanges data with an external device via a cable (not shown) or a cradle (not shown) in response to a command from the CPU 101.

[0157] Power is supplied constantly from the battery 109 to the CPU 101, the clock 111, the operation unit 112, an operation detection circuit 101A and a switch control circuit 101B. When the portable telephone is not in a standby state, power is supplied to the other circuits as well via a switch 120 in addition to the CPU 101, the clock 111, the operation unit 112, the operation detection circuit 101A and the switch control circuit 101B. In this condition, the clock 111 measures the length of time over which the operation unit 112 remains unoperated and as the measured length of time becomes equal to or greater than a predetermined specific length of time, the switch control circuit 101B at the CPU 101 sets the switch 120 in the open state, thereby cutting off power to the other circuits.

[0158] In the regular operating state, various displays are provided in the display mode shown in FIG. 5 in reference to which the first embodiment has been explained via the image display module 10. The display contents include a basic telephone operation screen and a settings screen. In addition, if the telephone has an online service mode capability, Web contents (homepage, still and dynamic images) and an e-mail operation screen may be displayed. In a portable telephone with a photographing function, still images and dynamic images photographed with the portable telephone and still images, dynamic images and character data transmitted from a communication partner, i.e., another portable telephone, can be displayed. At the image display module 10, full-color displays can be provided and the screen can be switched or scrolled at high speed.

[0159] As explained earlier, when no operation is performed at the portable telephone over the predetermined length of time, the portable telephone automatically enters the standby state under the control executed by the CPU 101. As the portable telephone shifts into the standby state, the CPU 101 functioning as the display control means switches to the display mode shown in FIG. 6 to bring up a display of preselected display contents at the character display module 20. As explained earlier, the power consumption is minimized in the display mode in FIG. 6. If any operation is performed in the standby state, the portable telephone automatically reverts to the display mode shown in FIG. 5.

[0160] FIG. 26(a) presents an example of display contents that maybe brought up in the standby state. They include a schedule input in advance in addition to a display of the date and time. While the schedule display must be updated